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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,807	10/27/2003	Naoya Kamiyama	117597	9678

25944 7590 07/19/2007

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER	
CRAIG, DWIN M	
ART UNIT	**PAPER NUMBER**
2123	

MAIL DATE	DELIVERY MODE
07/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/692,807	KAMIYAMA, NAOYA	
	Examiner	Art Unit	
	Dwin M. Craig	2123	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8, 10-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-8 and 9-13 have been presented for reconsideration based on Applicant's amended claim language and arguments.

Response to Arguments

2. Applicant's arguments submitted in the 4/11/2007 responses have been fully considered; the Examiner's response is as follows:

2.1 Regarding the Applicant's response to the objection to the IDS, 37 CFR 1.98 and MPEP 609.01, states in part, *"A copy of the translation if a written English-language translation of a non-English-language document, or portion thereof, is within the possession, custody, or control of, or is readily available to any individual designated in § 1.56(c)."* For the Examiner to consider the submitted foreign language reference a translated abstract will need to be provided.

2.2 Regarding Applicant's response to the objection to the specification, the Examiner thanks the Applicants' for providing a substitute specification and hereby withdraws the previous objection to the same.

2.3 Regarding Applicants' response to the 35 U.S.C. 101 rejections of the claims, Applicants' argued on pages 7 & 8 of the 4/11/2007 responses that *"In order to attain the above objective, only data, when the setting operation is performed, is stored into the storage means as the event data (page 4, lines 1-3). Therefore, Applicant respectfully submits that the subject matter to be stored of the pending claims produces a useful and tangible result, i.e., the amount of data to be stored can be significantly reduced."* The Examiner notes that reducing the amount of data being stored is a useful result; the Examiner has found this argument persuasive and hereby withdraws the 35 U.S.C. 101 rejections of the claims. Further and in regards to the claims teaching a useful

result, the Examiner notes that specification teaches that the storing of the data is used for simulation and analysis of engine data.

2.4 Regarding Applicant's response to the 35 U.S.C. 112 second paragraph rejection of claim 13, Applicant has failed to amend the claim language such that the rejection can be withdrawn, for example the current claim language read, *a time when the setting operation is carried out* and *a value of the data at the time...* the setting operation or the data have antecedent basis. An example claim that would have antecedent basis would be, *a time when a setting operation is carried out,* and *a value of a data element at that time;* the rejection is being maintained.

2.5 Regarding Applicant's response to the 35 U.S.C. 103(a) rejections of claims 1-5 and 7-13 Applicant's argued on page 8 of the 4/11/2007 responses, *"Plaisant fails to teach storing data only when the setting operation of the data through the output data setting section is detected as positively recited in claims 1, 11, 12 and 13..."* the Examiner respectfully traverse Applicants' argument.

While *Plaisant* teaches providing time stamps during simulation storage, which is functionally the same as the time stamps being claimed by the Applicant's expressly claimed limitations, the resultant data structure as disclosed by *Plaisant* in combination with *Nichols* will provide for the same data being captured and stored.

The 35 U.S.C. 103(a) rejections of claims 1-5, 7, 8 and 10-13 will be maintained.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 10/27/2003 fails to comply with the provisions of 37 C.F.R. 1.97, 1.98 and MPEP § 609 because reference 1 was not submitted with a translated abstract. It has been placed in the application file, but the information referred

to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements under 37 C.F.R. 1.97(e). See MPEP § 609.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-8 and 10-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claims 1, 11, 12, and 13 recite the following claim limitation, using independent claim 1 as an example, *information about the data only when the setting operation of the data through the output data setting section is detected.* A previous element of claim 1 reads, *a data output section for supplying the control target for supplying the control target with output data created on the basis of the data set through the output data setting.* These two limitations provide no clarity as to when or if steps are being performed, for example, information about data being collected is only being collected when the output data section is being *detected,* however it is unclear when or if or how or under what criteria the output data section is detected. According to the current claim language, the *output data section*, which appears from the current claim language to be *supplying control target data with output data created on the basis of the data set through the output data setting,* only claims a recursive

condition where it appears the output data is only being provided, when the output data is being provided, this confused claim language doesn't clearly set forth when output data is being generated and further how the generation of the output data section is *detected.* For example there is not interrupt of flagging mechanism that is disclosed in the claims, as well as the criteria for when this interrupt or flagging mechanism would be activated.

Dependent claims 2-8 and 10 have inherited this flaw.

Amendment and clarification are required.

4.1 Claims 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "the setting operation" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the data" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-5, 7-8, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,535,620 to Nichols in view of "The design of history mechanisms and their use in collaborative educational simulations" by Catherine Plaisant, Anne Rose, Gary Rubloff, Richard Salter and Ben Shneiderman hereafter referred to as Plaisant.

5.1 Regarding claim 1 Nichols teaches, a simulation apparatus comprising (Figures 1 & 2 and the descriptive text): an output data setting section for setting data (Col. 2 lines 32-50 and Col. 2 lines 57-67 "...user defined inputs to the engine management system jointly control the engine" and Col. 4 lines 45-67 and Col. 5 lines 1-10 and Col. 5 lines 18-38 "This flag is generated based on user supplied input as to the cycle pattern for the test..." data is being set based on the user input and this is output data because the data being set creates a simulated *exhaust* or output condition, see Col. 5 line 6 "...simulated exhaust gas signals..."),

which is output to a control target during execution of simulation (Col. 5 lines 25-27 "...the engine control module or engine management system controls the injectors..." see also Col. 6 lines 9-37); a data output section for supplying the control target with output data created on the basis of the data set through the output data setting section (Col. 6 lines 23-65 the ignition control signals based on the simulated input are controlling the engine and the simulated exhaust gases are an output that is the basis for the result of the simulation).

However Nichols does not expressly disclose, a storage section; an event data storage section for storing into the storage section as event data: a time when the setting operation is

carried out; a value of the data at the time; and information about the data, when setting operation of the data through the output data setting section is detected. (The Examiner has interpreted Applicant's claim language to teach a data structure used in a simulation, including a time stamp, to record data for playback, therefore any simulation system that teaches a time stamp for recorded data reads on the current claim language)

Plaisant teaches time-stamps for historical data used for playback including time stamps (7th page "Adding a time stamp is easy, but recording the state of the simulation at that time can pose problems, unless the design accommodates efficient history recording." When recording the simulation state this teaching clearly provides the requirement for data structures, including a **time** field, as expressly claimed and further other fields which would include a **value** of the data at the time of the *time* stamp and more **information** about the data, for example Plaisant teaches using the Delphi programming environment where objects are instantiated and further these objects are highly typed as known in the Object oriented programming arts therefore, having this knowledge of an artisan of ordinary skill, when implementing the methods and teachings of Plaisant, would know **information about the data** such as is the data a floating point type of data or an integer type of data or a pointer to an object? Further and regarding data structures also on page 7 Plaisant teaches, "Can history data structures or visual representations be generalized across platforms" and on page 8, "A learning history for this domain need only consider high-level time stamped events: Active events: actions on the simulation (e.g. open valve, turn on pump, etc.) or annotations (written comments or audio notes); Reactive events: messages (e.g. errors) or status reports (e.g. stable pressure reached, 50% of desired vacuum level reached); Modeling events: user modifications of simulation parameters.") and a storage

section (page 6 "A complete record of all events that occur during a session certainly would provide a sufficient database for any history function...").

Nichols and Plaisant are from the same problem solving area of simulating physical systems.

At the time of the invention it would have been obvious, to one of ordinary skill to have combined the engine simulation apparatus of Nichols with the simulation recording and playback methods of Plaisant.

The suggestion for doing so would have been to provide for a method to record and playback simulation histories as disclosed in the abstract of Plaisant and further the advantage of being able to annotate different events during the playback which provides the advantage of being able to experiment with different possible outcomes of the simulation without having to completely rerun the entire simulation, further there is the advantage of being able to collaborate with other designers/engineers during the test and evaluation stage of system development that Plaisant clearly teaches, see the section on page 12 labeled "Results" and note the discussion on how adding annotations and how these annotations *"embellished the presentation"*. Further, the methods thus disclosed provide a mechanism for on-line collaboration of a system being evaluated and therefore provides a further advantage of different members of a design team being able to work on the same project from different locations.

Therefore, it would have been obvious to combine Plaisant with Nichols to obtain the invention specified in claims 1-5, 7-8, and 10-13.

5.2 Regarding claim 2, Nichols does not expressly disclose *an event playback section for: reading the event data stored in the storage section; supplying the control target with output*

data created on the basis of based on analysis of the event data; and playing back the setting operation indicated by the event data.

However, Plaisant teaches (Figure 1 page 4 & Figure 3 on page 9 and the descriptive text on pages 8-11).

5.3 Regarding claim 3, Nichols does not expressly disclose, *wherein the event playback section starts playing back the setting operation at timing indicated by a user.*

However, Plaisant teaches the section called "History features" on page 10 and see Figure 4.

5.4 Regarding claim 4, Nichols does not expressly disclose, *wherein the event playback section starts playing back the setting operation automatically when predetermined data is detected.*

However, Plaisant teaches page 10 "Session histories can be played immediately, edited, or saved for later recall and replay..." see the rest of the descriptive text presented on page 10 as well.

5.5 Regarding claim 5, Nichols does not expressly disclose *a waiting time setting section for setting a waiting time till starting playing back the setting operation, wherein the event playback section starts the playback when the waiting time set by the waiting time setting section has passed.*

However, Plaisant teaches page 10 "Session histories can be played immediately, edited, or saved for later recall and replay..." see the rest of the descriptive text presented on page 10 as well. Clearly this section of Plaisant is providing a teaching of the flexibility of the simulation

history editing software as clearly taught and the ability to control when and how the simulation histories are played back.

5.6 Regarding claim 7, Nichols does not expressly disclose *an event data editing section for editing the event data stored in the storage section.*

However, Plaisant teaches page Figure 1 on page 4 more specifically, "While users manipulate the controls of the simulation (top left section), actions are recorded (bottom right section). **Comments** can be **added** during or after recording." Adding comments is the functional equivalent of editing.

5.7 Regarding claim 8, Nichols teaches the editing of waveforms (figures 2 and 3 & the descriptive text).

5.8 Regarding claim 10, Nichols does not expressly disclose *the event data editing section includes a text data editing section for editing the read event data into predetermined data; and the event playback section plays back the setting operation indicated by the event data edited through the text data editing section.*

However, Plaisant clearly teaches an event editing section and entering text, see pages 5 Figure 2 and the section entitled "Annotation".

5.9 Regarding claim 11 see the rejection of claim 1.

5.10 Regarding claim 12, see the rejection of claim 1.

5.11 Regarding claim 13, see the rejection of claim 1.

Possible indication of Allowable subject matter

6. Claim 6 has not been rejected with art at this time however, the Examiner will hold in abeyance any indication of allowable subject matter pending the response to the 35 U.S.C. 112 rejections presented above.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7.1 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwin M. Craig whose telephone number is (571) 272-3710. The examiner can normally be reached on 10:00 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul L. Rodriguez can be reached on (571) 272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dwin McTaggart Craig
AU 2123

PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100